

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 20031155
(43) Date of publication of application: 18.04.2

(51) Int. Cl. H01L 27/105
G11C 11/14, H01F 10/16, H01F 10/32, H01L 43/02, H01L 43/08,
H05K 9/00

(21) Application number: 2001310014
(22) Date of filing: 05.10.2001

(71) Applicant: CANON INC
(72) Inventor: KOGANEI AKIO

(54) NONVOLATILE SOLID MAGNETIC MEMORY,
ITS MANUFACTURING METHOD AND
MULTICHIP PACKAGE

(57) Abstract:

PROBLEM TO BE SOLVED: To obtain a nonvolatile solid state memory capable of high speed recording/reproduction by protecting an MRAM appropriate to a WLP age from an external magnetic field thereby preventing an erroneous operation due to the external magnetic field and enhancing stability in the recording/reproducing operation of the memory element.

SOLUTION: An MRAM chip 100 is covered with an insulation layer 101 and further covered with a magnetic shield structure 102 except parts of electrode pads 103a and 103b becoming the interface with the outside (fig. (a)). An MRAM chip 111 and a second device 112 are stacked through die connection layers 113 and 114, respectively. The MRAM chip 111 is connected with the device 112 by means of a bonding wire 116 and connected with a semiconductor mounting substrate 110 by means of a bonding wire 117. An inter-

poser 119 is formed on the semiconductor mounting substrate 110 and connected with an external circuit through solder balls 120 on the rear surface. The entire assembly is sealed with a resin package 115 (fig. (b)).

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